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Content-based Curriculum for Low Income and Minority Gifted Learners

Joyce VanTassel-Baska
The College of William & Mary
Williamsburg, Virginia

September 2003
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ABSTRACT

This monograph addresses planning and developing curricula for low income and minority gifted learners. Issues discussed include collaboration among professionals working with these students, choice of school program delivery models, involvement of parent and community support systems in nurturing potential, and curriculum interventions directed toward the needs and profiles of this population. Section I focuses on definitions of low income and minority groups as the terms relate to gifted and talented students, intervention strategies, and collaboration among professionals. Section II describes characteristics of low income and minority gifted learners, and Section III presents model interventions to be used with this population. Finally, new directions for future curriculum and program design for use with low income and minority gifted learners are discussed.

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EXECUTIVE SUMMARY

Planning and developing curricula for low income and minority gifted learners requires additional filters for the traditional lenses used to design effective curriculum for more typical learners. These required filters must take into account developmental discrepancies in the profiles of these learners that may call for considerable adjustment of the curriculum landscape. These developmental discrepancies lead us to think about special populations of gifted learners as possessing uneven profiles, with peaks and valleys that require special accommodation in the curriculum development process. To address the strengths in curriculum areas for these gifted learners is insufficient. We also need to develop value-added curriculum opportunities that address the relatively weaker aspects of their profiles, some of them in noncognitive areas. Current identification and programming practices for the gifted have not been sensitive to these uneven profiles; consequently, talent has gone unrecognized.

Several issues surrounding these special populations of learners seem worth stating. First, if we are to progress as a field in working with special populations, we must engage and collaborate more with professionals from other relevant disciplines. A second issue relates to providing for gifted learners in the regular classroom through cooperative teaching strategies. A third issue is the role of families, both nuclear and extended, in helping these low income students develop their potential. Lastly, new directions in curricula for the gifted may promote new curriculum prototypes based on the needs and profiles of low income populations and more extended use of individualized plans, derived through collaborative processes and executed in group settings. This direction for curricula should cause us to rethink existing models and adapt them to the more focused needs of these students.

Disadvantaged or "At-risk" Gifted

The special population of learners termed "disadvantaged" tends to have two foci in the literature. One focus is on minority groups that are culturally diverse, and the other is on low socioeconomic groups that cut across ethnic/racial lines. Historically, most minority groups have been underrepresented in programs for the gifted, and much of the research on minority gifted students has set out to find appropriate assessment protocols to remedy the underrepresentation. Less research has been conducted on effective intervention strategies with these populations.

Research reviews suggest that traditional assessment methods, including standardized IQ tests, teacher recommendations, and parent questionnaires, are inadequate in identifying gifted minorities (Amodeo & Flores, 1981; Frasier, 1984; Masten, 1985; Reschly & Ross-Reynolds, 1983). Recommendations to improve assessment protocols have focused on dynamic assessment techniques (Borland & Wright, 1994; Kirschenbaum, 1998), use of performance-based assessment protocols (VanTassel-Baska, Johnson, & Avery, 2002), and using nonverbal assessments (Bracken & McCallum, 1998; Naglieri & Kaufman, 2001).

Cultural norms also may hold back minority gifted students and may discourage full development of the gifted child (Amodeo & Flores, 1981; Ford, 1996); there is a need to recognize (a) intracultural variability in respect to motivation, social organization, and ways of speaking and thinking; and (b) cultural compatibility as a guide for selecting educational program elements (Patton & Baytops, 1995; Tharp, 1989).

Although low socioeconomic status (SES) is frequently entangled with cultural group membership, it seems to have a powerful influence in its own right on academic and personality development of gifted individuals. The influence of the home plays a crucial role in the development of students from low SES backgrounds (McIntosh & Greenlaw, 1986; VanTassel-Baska, 1989a). In comparative terms, low SES has a depressing effect on standardized test scores, even among the most able populations (VanTassel-Baska & Willis, 1988).

Effective Interventions

Low income students who are not members of minority groups tend to exhibit similar characteristics to those who are members in several respects. Both groups may appear socially marginallized in school settings due to their socioeconomic backgrounds in respect to clothing, mannerisms, and circle of friends. Often these students have difficulty penetrating the inner circle of popularity or even the circle of "nerds" because their behaviors are not really aligned with either group. Their mode of learning tends to be pragmatic, focused on what is necessary to get by and "close to the ground" in respect to the day-to-day existence their circumstances compel them to lead. This pragmatic outlook thus encourages their preference for concreteness in learning experiences, for practical applications of knowledge in their world, and for examples that both come from and hearken back to their world.

General interventions that have been documented to be successful with such also include early attention to needs, family involvement, use of effective instructional and leadership strategies in the school, experiential learning approaches, encouragement of self-expression, community involvement, counseling efforts, and building on strengths (VanTassel-Baska, 1992). It is also important to be sensitive to cultural values that may repress giftedness in students from impoverished backgrounds, including the high importance of social acceptance and the rejection of solitary activities (Ford & Harris, 1995; Ford & Thomas, 1997).

Curriculum Interventions for Promising At-risk Youth

Disadvantaged individuals born into the triangulation of low income homes, low educational level of parents, and low occupational status of the father have risen above the SES level of their parents (Jencks, 1972; Sennett & Cobb, 1972). Many educators of the gifted have expressed concern for the representation of minorities and low socioeconomic learners in programs for the gifted (Baldwin, 1989; Frasier, 1989; Maker & Schiever, 1989; Richert, 1982) and the gap between advantaged and disadvantaged populations in accessing educational advantage (VanTassel-Baska & Willis, 1988).

A recent review of the literature has found the intervention literature on low income and minority students to be focused on the areas of parental involvement, influential people, use of challenging content, and use of higher order thinking and problem-solving processes (Struck, 2002). Parental involvement has been found to be related to deeper student engagement with school work (Comer, Haynes, Joyner, & Ben-Avie, 1996; Fields, 1997) and parents becoming more involved in the instructional aspects of parenting (Howells, 1992; Karnes & Johnson, 1987; Robinson, Weinberg, Redden, Ramey, & Ramey, 1998; Ross & Smith, 1994). Parental involvement also has produced greater family harmony, enabling parents to understand gifted students better (Tomlinson, Callahan, & Lelli, 1997).

The potential positive effects of peers and teachers on the achievement and motivation of low income and minority students have also been well-documented in the literature (Ford, 1993, 1996; Ford, Wright, Grantham, & Harris, 1998; Struck, 2002; Tucker, Harris, Brody, & Herman, 1996; VanTassel-Baska, 1989b; VanTassel-Baska, Olszewski-Kubilius, & Kulieke, 1994).

Studies also have documented the importance of advanced curriculum content and the use of higher order processes in serving gifted learners from low income circumstances (Fields, 1997; McIntosh, 1995; Tomlinson et al., 1997; VanTassel-Baska et al., 2002). Successful content-based interventions in reading (Hurley, Chamberlain, Slavin, & Madden, 2001; Sensenbaugh, 1995) and mathematics show significant effects on learning (Fields, 1997; Webster & Chadbourn, 1992). Grouping these students together also appears to produce important benefits (Howells, 1992; Rito & Moller, 1989; Struck, 2002).

Conceptual Frameworks for Curriculum for Low Income Gifted Learners

Earlier work has explicated in detail the Integrated Curriculum Model (ICM) (VanTassel-Baska, 1986, 1992, 1998, 2003; VanTassel-Baska & Little, 2003) on which 12 years of Javits curriculum projects have been constructed. This model has proven effective in conceptualizing and organizing exemplary curriculum units of study in science, language arts, mathematics, and the social studies. The use of constructivist approaches in all the units encourages safe risk-taking, discussion in small collaborative groups, and group research, which all address the research-based needs of economically disadvantaged and minority populations for tailored curriculum. In addition, both the

language arts and social studies units use strong multicultural materials. The social studies units emphasize building multiple perspectives and recognizing alternative points of view on many social and political issues, leading to policy development and enactment, a major emphasis in multicultural social studies curriculum (Banks, 1995).

Anderson (1988) and Ford (1996) have viewed current curriculum efforts for minority groups as reflecting Anglo-European concepts of cognitive functioning, learning, and achievement and failing to identify the cognitive assets and learning preferences of individual cultural groups. Because different cultures produce different learning styles, modes of perception, and cognitive behaviors, these researchers have articulated a need for altering the belief systems of educators to understand and respond to non-Western perceptions. Banks (1995) also has articulated a strong need for multicultural pluralism as a facet of curriculum study.

Translations of such an approach have included the Portland Public Schools, Oregon multicultural curriculum project and resultant materials (Hilliard, 1988; Leonard & Barader, 1988) and the Northwestern University resource-intensive program which focused directly on serving secondary gifted disadvantaged students and their families in the city of Chicago (Olszewski-Kubilius, Grant, & Seibert, 1994; Olszewski-Kubilius & Scott, 1992). A College of William & Mary program and curriculum, entitled *Libraries Link Learning Resource Guide* (Boyce, Bailey, & VanTassel-Baska, 1990), was designed to serve young at-risk gifted students in the language arts through the use of literature selected for being intellectually stimulating (Baskin & Harris, 1980), affectively relevant (Halsted, 2002), and multiculturally representative (Hernandez, 1989).

The Challenge for the Future

Clearly, the field of gifted education is changing. Our conceptions of intelligence, and therefore of giftedness, have changed. Our conceptions of the delivery context for serving the gifted have changed. Our population focus has changed. If gifted education is to be meaningful for the students it wants to serve, curriculum planners for the gifted should be cognizant of the importance of addressing individual needs of learners even as we plan for group needs, addressing talents in individual domains as well as general abilities, and addressing affective as well as cognitive concerns through a rich curriculum base that builds cultural competence in important ways.

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Introduction

Planning and developing curricula for low income and minority gifted learners requires additional filters for the traditional lenses used to design effective curriculum for more typical learners. These required filters must take into account developmental discrepancies in the profiles of these learners that may call for considerable adjustment of the curriculum landscape. These developmental discrepancies lead us to think about special populations of gifted learners as possessing uneven profiles, with peaks and valleys that require special accommodation in the curriculum development process. To address the strengths in curriculum areas for these gifted learners is insufficient. We also need to develop value-added curriculum opportunities that address the relatively weaker aspects of their profiles, some of them in noncognitive areas. Current identification and programming practices for the gifted have not been sensitive to these uneven profiles; consequently, talent has gone unrecognized.

In the general population of gifted learners, many students are lower in social, emotional, and physical development than in intellectual development, and at key stages of development these differences can be profound. The 5-year-old who is intellectually precocious but unable to control tantrums in the classroom, and the 9-year-old math prodigy who cannot compete athletically with age-mates are both examples of children who are not equally strong in all areas of human endeavor at a given point in their development. This pattern of uneven development, even in the highly gifted, is seen as a sign of weakness, of not being fully functioning. As a consequence, the approach schools typically take is to "even out" the profile, insisting on addressing the weaker issues instead of focusing on strengths.

In special populations the nature of the uneven profile many times varies based on the defining issues associated with the condition of "specialness." And we frequently have treated these conditions as the major point of intervention rather than the child's unique talents and abilities. In disadvantaged populations, we may see academic skill deficiencies and a lack of early education nurturance and home support as the weaker aspects of the profile.

Several issues surrounding these special populations of learners seem worth stating. One of the most obvious is our need as a field to involve other professionals who may have greater expertise in their areas of specialization than we do in understanding the uneven profile of these students. Recent work with disadvantaged gifted learners has frequently been a collaborative effort with colleagues whose backgrounds are in social

psychology, multicultural education, and other domains. If we are to progress as a field in working with special populations, we must engage and collaborate more with professionals from other relevant disciplines.

A second issue relates to choices of school program delivery systems. As the need to understand both individual and group differences among gifted learners becomes greater, our resource capacity becomes more limited, and we are forced to rely on existing school organizational structures to deliver curriculum services. Consequently, we are experiencing a movement to provide for gifted learners in the regular classroom, toward cooperative teaching strategies and away from pull-out programs that use a resource teacher approach. While instructional grouping and regrouping are the hallmark of effective cooperative teaching, less separate and distinct grouping of gifted learners is likely to occur under this model. This may be unfortunate, because we need more focused time with these special learners to discover how to work with them most effectively. Special programs that have been effective in the past for these special populations have frequently been self-contained (Daniels, 1983; Maker & Schiever, 1989; Whitmore, 1980). Moreover, many of the current programs funded under the Javits Act also employ a self-contained service delivery model to effect change with these special populations of gifted learners.

A third issue is the role of families, both nuclear and extended, in helping these low income students develop their potential. The home has always been perceived to be the most important force in the talent development process (VanTassel-Baska & Olszewski-Kubilius, 1989), but work with parents of at-risk learners in particular has proven difficult and elusive. New models for parenting intervention and family counseling hold promise for making inroads in this important task (Comer, 1988). Helping these families understand the importance of their role as monitors and guides for their child's educational progress is central to such an effort. A family planning model may offer a system for easy self-monitoring and follow-up on progress. The families of these special population students may be even more attuned to the needs of their children than other parents of the gifted, although they may require additional resources. We know, for example, that parents of disadvantaged gifted learners in general maintain a strong belief in the values of education and the work ethic (VanTassel-Baska, 1989a).

Lastly, new directions in curricula for the gifted will promote new curriculum prototypes based on the needs and profiles of low income populations and more extended use of individualized plans, derived through collaborative processes and executed in group settings. This direction for curricula should cause us to rethink existing models and adapt them to the more focused needs of these students.

Disadvantaged or "At-risk" Gifted

The special population of learners termed "disadvantaged" tends to have two foci in the literature. One focus is on minority groups that are culturally diverse, and the other is on low socioeconomic groups that cut across ethnic/racial lines. Although these groups

overlap, key features may differentiate them, in the process rendering the term "disadvantaged" unsuitable and inappropriate as an umbrella designation.

Definitional Issues

A three-year study of key demographic features of disadvantaged gifted learners in the Midwest defined "disadvantaged" in purely economic terms (VanTassel-Baska & Willis, 1988), whereas large-scale sociological studies have considered father's education and occupational status as the key variables (Jencks, 1972). More pervasive efforts within the field of gifted education have designated both minority status and cultural difference as key variables in defining the term (Frasier, 1980; Maker & Schiever, 1989). No one definition has been clearly accepted by the field, for these variables can occur singly or in combination (Baldwin, 1985).

The result of this variance can be seen in the State of California omnibus definition of disadvantaged gifted, which considers all of the following diverse factors: environmental, economic, cultural, language, and social. Many minority groups object to the term "disadvantaged" because of its negative value connotation (Frasier, 1979a; Tonemah, 1987). After conducting a national survey in all fifty states, VanTassel-Baska, Patton, and Prillaman (1991) recommended the definition "at-risk for accessing educational advantages in the larger society" as a replacement for the perceived negative term "disadvantaged."

A definitional structure for "disadvantaged gifted" linked to educational issues would seem to be salient, because students who are educationally disadvantaged have been exposed to inappropriate educational experiences in at least three institutional domains: the school, the family, the community. Lack of adequate resources for education is the main issue to be considered in this definition. Five key indicators associated with educational disadvantagement are as follows:

- minority racial/ethnic group identity
- living in a poverty household
- living in a single-parent family
- having a poorly educated mother
- having a non-English language background. (Pallas, Natriello, & McDill, 1989)

These variables were selected based on their correlation with poor performance in school. Indications are that 20-25% of school-age children are educationally disadvantaged according to the definition indicated; National Assessment of Educational Progress (NAEP) reading test data substantiate that as many as 35-40% of students can be so classified (see Pallas et al., 1989).

Studies on disadvantaged gifted populations based on an omnibus definition have focused on two issues related to definition:

1. The use of nontraditional measures to identify disadvantaged students (Bernal & Reyna, 1974; Bruch, 1978; Frasier, 1979a; Torrance, 1971).
2. Recognition of cultural attributes and factors in deciding on identification procedures (Baldwin, 1985; Gay, 1978; Miller, 1974; Samuda, 1975; Witty, 1978).

These issues have tended to strongly emphasize minority group membership rather than socioeconomic status per se.

Minority Issues and Groups

Historically, most minority groups have been underrepresented in programs for the gifted, and much of the research on minority gifted has set out to find appropriate assessment protocols to remedy the underrepresentation. Less research has been conducted on effective intervention strategies with these populations. Maker and Schiever (1989) provided an in-depth treatment of theory, research, and practice in this area.

Research reviews suggest that traditional assessment methods, including standardized IQ tests, teacher recommendations, and parent questionnaires, are inadequate in identifying gifted minorities (Amodeo & Flores, 1981; Frasier, 1984; Masten, 1985). Problems in current identification methods include neglect of subcultural values and abilities; middle-class mainstream bases of measurement instruments; tests standardized without sufficient numbers of minorities; lack of knowledge about or identification of culturally valued talents; and negative consequences of adverse environmental factors (Masten, 1981).

The use of traditional tests to identify gifted minority students has proved to be limiting. Reschly and Ross-Reynolds (1983) summarized areas of potential bias in the testing of all minorities, including inappropriate test content, inappropriate standardization samples, examiner and language bias, inequitable social consequences, measurement of different constructs, and differential predictive validity. Identification of gifted minorities typically has involved some combination of testing and inventories and checklists. In a study of 60 local programs serving minority students, VanTassel-Baska et al., (1991) found that the use of non-biased assessment protocols at the local level frequently included norm-referenced tests, non-traditional tests such as the Raven's Progressive Matrices, and nominations from educational personnel, parents, and community.

Recommendations to improve assessment protocols have focused on administering tests in the child's dialect and having children say their responses instead of writing them (Masten, 1985) and using nonverbal assessments (Bracken & McCallum, 1998; Naglieri & Kaufman, 2001).

Cultural norms also may hold back minority gifted students. These norms include (a) the degree of importance placed on social acceptance; (b) a tendency to reject solitary

activity; and (c) sanctions against questioning cultural values. Many minorities place the needs of the group before those of the individual and, therefore, may discourage full development of the gifted child (Amodeo & Flores, 1981; Ford, 1996). Thus, there is a need to recognize (a) intracultural variability in respect to motivation, social organization, and ways of speaking and thinking, because these variances are based on education, income, and class status; and (b) cultural compatibility as a guide for selecting educational program elements (Patton & Baytops, 1995; Tharp, 1989).

Lindstrom and VanSant (1986) have identified several issues as critical to minority students:

- Low cultural expectations for achievement, manifested in little encouragement or support.
- Peer rejection, particularly for young Black men.
- Conflict generated by developing one's potential and succeeding in the "majority" culture and leaving one's own cultural community to do so.
- Lack of long-range planning.
- Career development.

Evidence of the intrapersonal strengths of minority children are impressive. Thenacho (1988) summarized research related to the self-concept of adolescents from minority cultures. His analysis indicated that minorities within given background levels do have higher self-concepts than Whites. Prom-Jackson, Johnson, and Wallace (1987) found that "academic self-concept" was the best predictor of her minority subjects' gradepoint average, followed by "orientation to tasks."

Low Socioeconomic Status

Although low socioeconomic status (SES) is frequently entangled with cultural group membership, it seems to have a powerful influence in its own right on academic and personality development of gifted individuals. Frierson (1965) investigated the difference in characteristics of gifted students of lower SES and those from a more favorable environment. He found a trend for the gifted advantaged to show superiority in superego development (greater conscience and self-discipline). In the area of activity preferences, significant differences were obtained between the advantaged and disadvantaged gifted; the advantaged preferred reading, whereas the disadvantaged gifted favored participation in games and competitive sports. The advantaged gifted also demonstrated performance exceeding that of the disadvantaged on measures of creative thinking.

The influence of the home plays a crucial role in the development of students from low SES backgrounds. In an ethnographic study of successful gifted disadvantaged students, VanTassel-Baska (1989b) found the role of family members, including extended family, to be a critical support structure, stressing the value of education and the work ethic and monitoring the child's education. Most educational opportunities, however, came through the mechanism of school. McIntosh and Greenlaw (1986) found

that gifted students from lower SES homes have different achievement messages communicated to them than do those from upper and middle class homes. In the low SES homes, education tends to be devalued; possessing a "job" is considered more important than pursuing a "career," post-secondary education is considered unnecessary, and the focus is on the immediate present rather than on future planning.

Expectations in the homes of low SES students can be unrealistic, hampering the flow of appropriate messages between home and school. Entwisle and Hayduk (1978) found that primary-level students from working class backgrounds and schools had unrealistically high expectations for academic success when compared to students from middle class backgrounds and schools. Although both groups of parents were better predictors of their child's level of success in school than were their children, working class parents were less able to predict their child's school achievement than middle class parents. Racial differences in expectations were minimal.

Hanson and Ginsburg (1986) found that high expectations contributed positively to high achievement patterns in low SES students. They specifically found that values exert twice the influence of the effects of SES variables in determining school success. High parental expectations, peers who value education, personally high educational expectations, and fate control were all associated with increases in achievement over time.

In comparative terms, low SES has a depressing effect on standardized test scores, even among the most able. VanTassel-Baska and Willis (1988) found that gifted disadvantaged students, as defined by low income, consistently scored significantly lower on all sections of the Scholastic Aptitude Test (SAT) than more advantaged learners. This difference was consistent within each minority group, as well as for Whites, lending credence to the idea that score levels are affected negatively by low SES.

A study commissioned by the Secretary of Education cited the following statistical conditions in our schools as indicative of the need to address the issue of disadvantaged gifted learners more specifically:

1. Whereas students from low-income backgrounds comprise 20 percent of the student population, they make up only 4 percent of those students who perform at the highest levels on standardized tests (those who score at the 95th percentile or above);
2. High school seniors from disadvantaged families (in which the mother did complete high school) are less than half as likely to have participated in gifted and talented programs as more advantaged seniors; and
3. Disadvantaged students are far less likely to be enrolled in academic programs that can prepare them for college and are about half as likely to take coursework in advanced math and science than more advantaged students. Only 2 percent of high school seniors from poor families take calculus, whereas approximately 7 percent of those from more advantaged backgrounds do. (Alamprese & Erlanger, 1989, p. v)

According to Gross and Capuzzi (2000), 24 million children live in poverty. Students from impoverished backgrounds are at greater risk for a host of social-emotional problems, including lower levels of motivation, when compared to children who do not come from impoverished backgrounds (Beirne-Smith, Patton, & Ittenbach, 1994). Oftentimes the risks for social-emotional problems come from related special challenges for students living in poverty, including higher rates of disabilities, teenage mothers, absent fathers, lower motivational levels, parents without resources, health problems, concerns about safety and daily survival, and increased risk of homelessness (Beirne-Smith et al., 1994; Stormont, 2000).

Intervention Issues

Whether we are talking about minority students or poor White students from rural areas, one factor remains common to each group: They reside outside the mainstream networks that provide access to educational advantage. The knowledge provided by such networks is crucial to converting high aspirations into creative, productive achievement at various stages of development. The role of key interventions is critical in the conversion process.

At their best, in-school programs have provided rigorous coursework comparable to what advantaged learners in the best school settings would receive. Other school programs have set out to remediate skill deficits or offer programs in nonacademic areas, such as the performing arts. A national survey identified only 60 programs for the disadvantaged gifted at the local level across the United States, although directors of gifted programs named more than 100 districts to be providing service (VanTassel-Baska et al., 1991). Most of these programs were not differentiating service delivery for the disadvantaged-gifted students, even though they did include them in programs for the gifted students.

Coleman and Gallagher (1995) conducted a study from 1991 to 1993 to determine state policies related to the identification of gifted children from special populations. They discovered that only one state had no written policy on gifted education, and 41 states gave reference to gifted students from culturally diverse backgrounds, whereas 40 state policies included gifted students from low socioeconomic status. From these data, one might infer that existing gifted programs serve special populations in proportion to the general population; however, the disproportionate numbers reported by researchers in the field of gifted education contend this is not the case (Maker, 1996; Mills & Tissot, 1995). United States Department of Education statistics (1996) revealed that during the 1993-94 school year, 9% of the learners receiving gifted services were from the bottom quartile of family income, whereas 47% of the students in gifted programs were from families whose income was in the top quartile. The reasons for this situation include that some states rely on traditional intelligence tests that may be culturally biased, minority students are not recommended to gifted programs by teachers to the same extent as majority students, and administrators and teachers focus on the deficiencies of minority children rather than on their strengths (Taylor, 1996).

Because differential interventions for disadvantaged gifted learners have been limited thus far, we should seek to understand what seems promising in this area for the future, given a greater emphasis on this special population at the federal level. Perhaps the most important ideas about intervention for this population are related to timing. Early intervention has been found to be influential in reducing later academic problems for disadvantaged students (Ramey, Yeates, & Short, 1984; Schweinhart, 1993; Seitz, Rosenbaum, & Apfel, 1985).

Moreover, school context variables seem to be vital considerations for all disadvantaged learners. Effective school models, in particular, are a good source for addressing appropriate interventions with the disadvantaged. Research on classroom environment is extensive, much of it centered on schools' able populations of lower SES students (Lezotte & Bancroft, 1985; Mann, 1985; Maskowitz & Hayman, 1976; Ornstein, 1983; West, 1985).

Although school quality issues have been examined extensively, the specifics of what impacts differentially on learning at the classroom level for disadvantaged learners are less clear-cut. Several researchers have focused on group rather than individual models of learning as more facilitative for minority group students. Slavin and Oickle (1981) found a greater increase in Black students' academic performance in cooperative learning groups. Hale-Benson (1986) advocated peer tutoring, and Holliday (1985) emphasized enhanced teacher-student interactions. Dunham and Russo (1983) recommended the use of mentors, community involvement, and early counseling to help broaden ideas on future career roles for disadvantaged learners. The literature on disadvantaged gifted has tended to emphasize the following intervention strategies:

1. Attention to strengths in nonacademic areas, particularly in creativity and psychomotor domains (Bruch, 1975; Hilliard, 1976; Torrance, 1977).
2. Creation of programs that address noncognitive skills and enhance motivation (McClelland, 1978; Moore, 1978).
3. Bridging programs that provide access to advanced work yet shore up skill gaps (Fields, 1997; Struck, 2002; Webster & Chadbourn, 1992).

Economically disadvantaged minority students who are gifted are also at risk for attending college. They may be poorly prepared for college because their schools often fail to recognize their abilities (Exum, 1979) or place them in programs to develop them (Alamprese & Erlanger, 1989; VanTassel-Baska et al., 1991). They may receive negative messages about the value of college for their future from peers and others (McIntosh & Greenlaw, 1986; Passow, 1972) or mixed messages because families fear losing them as a result of advanced education and upward mobility. Often, the message is one of non-achievement to maintain cultural identity (Ogbu, 1994). Students may also have difficulty setting long term educational or career goals and conducting the planning and investigation needed to prepare for college entrance, given the immediate and often overwhelming demands of everyday life (Jones & Jones, 1972; Lindstrom & VanSant, 1986; McIntosh & Greenlaw, 1986). In addition, economically disadvantaged, academically gifted minority students may make inappropriate choices because they fear

the isolation resulting from the increasing disparities between their future world of college and work and their present homes and communities (Frasier, 1979b; Lindstrom & VanSant, 1986).

School psychologists and/or counselors need to assist students in improving skills that are critical for academic success in college, including test-taking skills, study strategies, and managing time effectively (Ford & Thomas, 1997). Students also need to be supported in developing aspirations for their careers (McIntosh & Greenlaw, 1990). Many students who are poor are also ethnically diverse, and it is important for professionals and parents to help foster career aspirations by using strategies to support self-esteem and to develop racial identity (Ford & Thomas, 1997). Racial identity can be developed effectively within multicultural curricula (Ford, 2000).

Effective Interventions

General interventions that have been documented to be successful with learners identified as economically disadvantaged also include early attention to needs, family involvement, use of effective instructional and leadership strategies in the school, experiential learning approaches, encouragement of self-expression, community involvement, counseling efforts, and building on strengths (VanTassel-Baska, 1992). It is also important to be sensitive to cultural values that may repress giftedness in students from impoverished backgrounds, including the high importance of social acceptance and the rejection of solitary activities (Ford & Thomas, 1997). Researchers have stressed the importance of understanding cultural value systems when working with gifted students (Ford & Harris, 1995).

As we examine effective interventions, several directions seem promising:

1. *Separate instructional opportunities for students with the same developmental profile*. Data across special populations suggest the importance of within-group instructional time that allows for interaction based on similar conditions, whether it be gender, social background, or other adverse conditions.
2. *The use of technology, especially microcomputers, to aid in transmission of learning for many special population learners*. Although new technology has been used most predominantly with disabled gifted learners, it holds promise for targeted use with other learners who evidence discrepant learning patterns and can profit from compensatory intervention.
3. *Small-group and individual counseling, mentorships, and internships for special population learners*. These interventions all constitute individual attention to affective as well as cognitive issues of development.
4. *A focus on the arts as a therapeutic intervention as well as a creative and expressive outlet*. Through the arts, the dyssynchronies of one's

experience can be reduced and absorbed into a higher pattern of integration. Thus, the arts can enhance higher-level functioning.

5. *Use of materials rich in ideas and imagination coupled with emphasis on higher-level skills*. Both self-concept and motivation are in jeopardy if prolonged use of compensatory strategies and basic level materials are maintained in the educational process of these learners. Challenging content with attention to ideas and creative opportunities is essential to combat further discrepant performance.

Collaboration

As we review where we are in our understanding and appropriate treatment of students who are characterized as "special populations," the field of gifted education stands at an important juncture in shaping appropriate responses to the needs these students present. Though it is clear that identification protocols must be liberalized and value-added interventions must be structured, it is less clear how we might proceed to forge linkages with general and special education to carry out the needed tasks. Our greatest challenge in providing service to these learners will be in our efforts to reach out to other educators in collaborative ways. Only in this way can we deal realistically with the complexity of these students' profiles.

Curriculum Interventions for At-risk Promising Youth

For decades sociological studies have cited the different life development paths taken by individuals based on SES. Disadvantaged individuals born into the triangulation of low income homes, low educational level of parents, and low occupational status of the father have risen above the SES level of their parents (Jencks, 1972; Sennett & Cobb, 1972). Many educators of the gifted have expressed concern for the representation of minorities and low socioeconomic learners in programs for the gifted (Baldwin, 1989; Frasier, 1989; Maker & Schiever, 1989; Richert, 1982). Moreover, studies have shown the gap between advantaged and disadvantaged populations in accessing educational advantage (VanTassel-Baska & Willis, 1988).

Though it can be argued that all disadvantaged children and families need assistance, the need is particularly compelling for highly promising learners in this group. Their unique gifts and talents are likely to be overlooked if, because of low SES, cultural differences, or disabling conditions, they do not manifest the behaviors traditionally associated with giftedness. These individuals are typically excluded from or underrepresented in gifted programs because of (a) fewer environmental opportunities that enhance intellectual achievement (Gallagher, 1985; Kitano & Kirby, 1986); (b) the exclusive use of standardized tests, which reflect middle-class, majority values and do not reflect exceptional abilities, experiences, cultural styles, and values of minority students (Davis & Rimm, 1985; Kitano & Kirby, 1986); and (c) the impact of sensory, motor, language, learning, or emotional disorders on performance as assessed through traditional measures (Fox, Brody, & Tobin, 1983; Maker & Schiever, 1989).

A recent review of the literature has found the intervention literature on low income and minority students to be focused on the areas of parental involvement, influential people, use of challenging content, and use of higher order thinking and problem-solving processes (Struck, 2002; see Appendices A & B). Parental involvement has been found to be related to deeper student engagement with school work (Comer, Haynes, Joyner, & Ben-Avie, 1996; Fields, 1997) and parents becoming more involved in the instructional aspects of parenting (Howells, 1992; Karnes & Johnson, 1987; Robinson, Weinberg, Redden, Ramey, & Ramey, 1998; Ross & Smith, 1994). Parental involvement also has produced greater family harmony, enabling parents to understand gifted students better (Tomlinson, Callahan, & Lelli, 1997).

The potential positive effects of peers and teachers on the achievement and motivation of low income and minority students have also been well-documented in the literature (VanTassel-Baska, 1989b; VanTassel-Baska, Olszewski-Kubilius, & Kulieke, 1994). For minority students, the need for teacher support and understanding is a critical variable in their success (Ford, Wright, Grantham, & Harris, 1998; Struck, 2002; Tucker, Harris, Brody, & Herman, 1996). Engagement with peers who share similar values and interests has also been shown to be facilitative in keeping these students focused on academics and motivated to achieve (Ford, 1993, 1996).

Studies also have documented the importance of advanced curriculum content and the use of higher order processes in serving gifted learners from low income circumstances (Fields, 1997; McIntosh, 1995; Tomlinson et al., 1997; VanTassel-Baska, Johnson, & Avery, 2002). Successful content-based interventions in reading for all disadvantaged learners, regardless of ability, have stressed a tutorial or small group intensive approach in which students are grouped according to instructional level (Hurley, Chamberlain, Slavin, & Madden, 2001; Sensenbaugh, 1995).

In teaching mathematics, studies have found that the use of direct instruction coupled with an emphasis on math concepts delivered by math and science specialists impacts learning significantly (Fields, 1997; Webster & Chadbourn, 1992). Grouping these students together also appears to produce important benefits. The more homogeneous the grouping context over time, the more likely disadvantaged gifted learners will show significant and long term gains in achievement in all areas of learning measured (Howells, 1992; Rito & Moller, 1989; Struck, 2002).

Conceptual Framework for Curriculum for Low Income Gifted Learners

Earlier work has explicated in detail the Integrated Curriculum Model (ICM) (VanTassel-Baska, 1986, 1992, 1998, 2003; VanTassel-Baska & Little, 2003) on which 12 years of Javits curriculum projects have been constructed. Briefly, its components are based on a review of literature on what approaches work with gifted students in schools and involve the combinatory dimensions of (a) advanced content; (b) the higher level processes of thinking, problem-solving, and research linked to a quality product; and (c) the use of a central concept, issue, or problem to guide the unfolding of student understanding. This model has proven effective in conceptualizing and organizing

exemplary curriculum units of study in science, language arts, mathematics, and the social studies (see Figure 1).

For students from low income and minority backgrounds, the model is flexible enough to accommodate a curriculum tailoring process these students need to make curriculum more appropriate to their characterological profiles. For example, in both the language arts and social studies units, the use of multicultural materials is standard. In language arts, selections by authors from different ethnic groups in the United States (i.e., African American, Hispanic American, Asian American, and Native American) are carefully woven into each unit of study. The texts selected have been carefully chosen to reflect the contributions of each minority group and avoid cultural stereotyping.

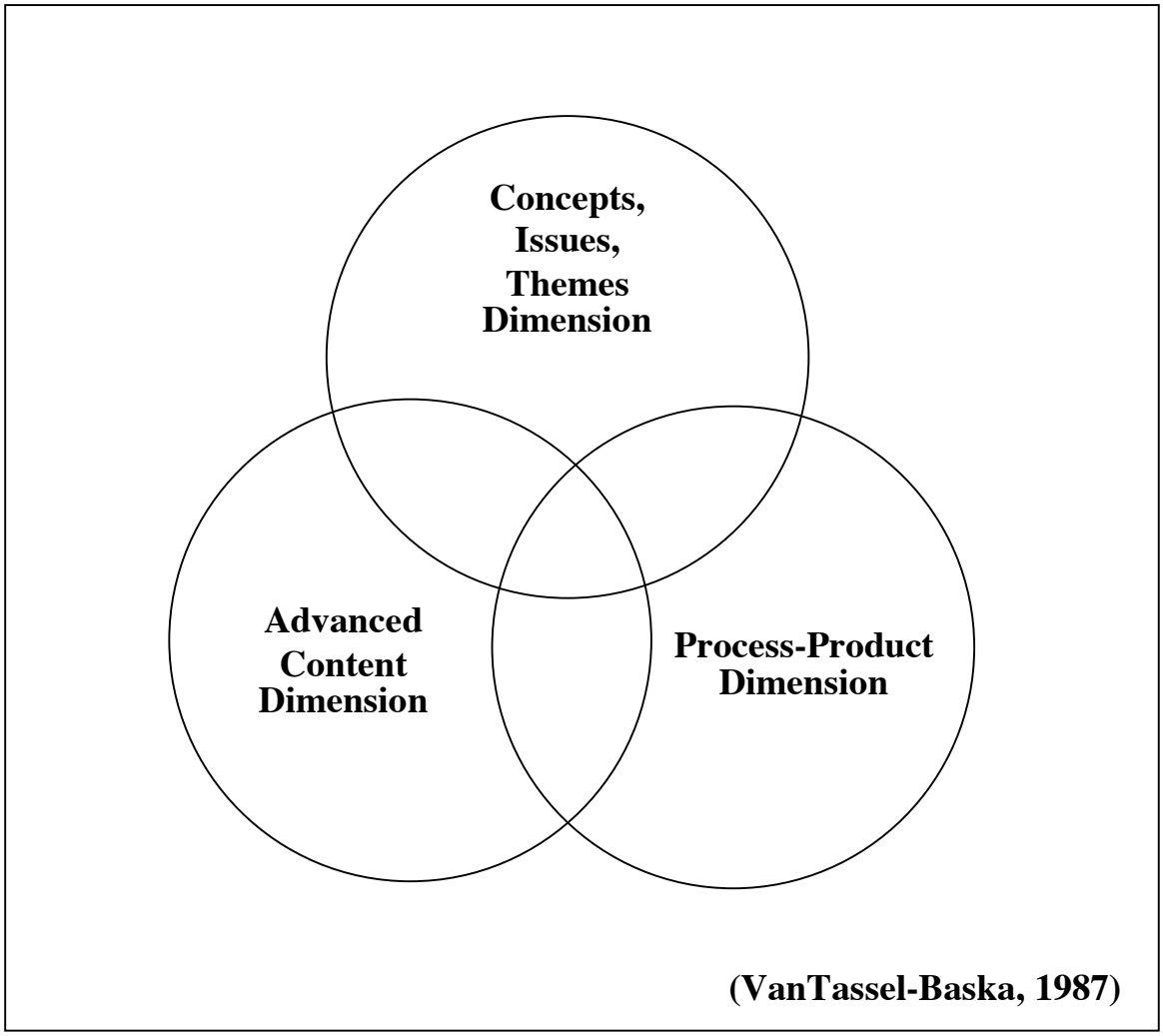

Figure 1. The Integrated Curriculum Model for gifted learners.

In the social studies units, there is a major emphasis on building multiple perspectives and recognizing alternative points of view on many social and political issues. Not only does this aid critical thinking, it also promotes tolerance and understanding of diversity.

The use of constructivist approaches in all the units encourages safe risk-taking, discussion in small collaborative groups, and group research, which all address the research-based needs of this population for tailored curriculum. Additional special features of the curriculum that especially match learning characteristics and research on these populations are the following:

- use of creative expressive activities
- use of open-ended activities
- concept mapping
- metacognition
- use of multicultural readings and materials
- use of multiple perspectives
- use of real world applications
- use of hands-on approaches
- use of community
- use of inquiry approaches, promoting student question asking

Learner Characteristics of Low Income and Minority Students

Low income students who are not members of minority groups tend to exhibit similar characteristics to those who are members in several respects. Both groups may appear socially marginallized in school settings due to their socioeconomic backgrounds in respect to clothing, mannerisms, and circle of friends. Often these students have difficulty penetrating the inner circle of popularity or even the circle of "nerds" because their behaviors are not really aligned with either group. Rather, it is more likely that they become independent in their mode of operation and thereby limited in opportunities for learning from productive social interactions. By the same token, their mode of learning tends to be pragmatic, focused on what is necessary to get by and "close to the ground" in respect to the day-to-day existence their circumstances compel them to lead. This pragmatic outlook thus encourages their preference for concreteness in learning, for practical applications of knowledge in their world, and for examples that both come from and hearken back to their world.

For these students, the world of the arts is more freeing, both psychologically from their deprived circumstances but also in modes of expression that defy verbal explanation. The arts provide a perceptively different way of knowing and moving within the world (Eisner, 1985) and students from different cultural backgrounds may respond more to the integration of cognitive and affective elements inherent in the arts because of the integration of cognition and affect within their own culture (Ford & Harris, 1999). In the arts, these students can choose to revel in just "being" or address cognitive and academic needs through or in conjunction with artistic endeavors. Use of

the visual arts, dance, music, and theater all have their special pull for these students because they can serve as an emotional and aesthetic outlet as well as offer cognitive challenge in a non core area of the curriculum.

Since fluid intelligence is the prominent ability of these students, they gravitate well to real world thinking and problem-solving situations, especially those that are highly open-ended and require the use of fluency and flexibility in attempting solutions. Many also like to verbalize their thinking and use this technique to develop elaborative skills orally. Transference of this process to written form is much more difficult and often takes many more years of practice to develop proficiency.

These students have all learned disappointment early, whether in their single-parent family constellation or the denial of material possessions taken for granted by other students, or by the impoverished nature of their lives, lived without the richness of learning resources such as private lessons, special summer programs and camps, and other opportunities afforded those of greater means. Such learning early from adverse circumstances propels these students to want to make their world better, for which metacognitive skills are essential. Thus these students can be deeply influenced by self-help algorithms that focus on ways to achieve upward mobility. The skills of planning, monitoring, and assessing one's progress are central to such growth, as is serious reflection upon one's goals and strategies to accomplish them.

In such lives, the role of individuals who take a special interest is central to keeping their dream of a better life alive. Sometimes it is a family member, but many times it is also an educator who sees a spark and encourages its ignition. Low income students disproportionately need these individuals to teach them informally what they need to know to be successful, thus serving as role models extraordinaire. While mentors can be a wonderful resource to such students, the likelihood of mentor matches for all the promising low income students who need them appears limited. Therefore, the educational community needs to find other means for encouraging and nurturing such students on an informal basis.

Many times these students have skill gaps in learning, especially in core areas of the curriculum. A targeted tutorial, using good diagnostic-prescriptive approaches, can go a long way in improving such students' performance. If the tutor is also an older student of similar background or an adult of the same gender and ethnicity, the informal message is even more strongly communicated.

If the foregoing discussion provides a psychological profile of low income students, it also provides a blueprint to the central learning characteristics they possess, which typically include the following:

- openness to experience
- non-conformity and independence in thinking
- creativity and fluency in their thinking
- preference for oral expression

- tendency to blend feelings with thoughts
- responsiveness to multiple modes of learning as displayed in the arts
- preference for hands-on applications
- preference for real world connections
- responsiveness to individual learning patterns

A curriculum that is responsive to such learners will need to possess enough flexibility to address these characterological needs to a great extent.

The next section of this monograph will focus on the application of these learning characteristics and research-based understandings of curriculum that work in practical archetypal applications.

Model Interventions

Many programs use whole class interventions in problem-solving skills to stimulate latent abilities in at-risk learners (McIntosh, 1995). Project LEAP in Hampton, Virginia, is an archetype of such programs (VanTassel-Baska, 1992). It uses an experiential approach to the identification and assessment of gifted and talented primary students by exposing students to differential educational experiences designed to expand problem-solving abilities and creative thinking. Multiple disciplines are integrated in encouraging the development of productive, abstract, and higher-level thinking skills.

Observation of Project LEAP activities in both second and third grade revealed a heavy emphasis on higher-level thinking in the context of traditional content domains. These activities were hands-on and required students to make predictions, to deduce, and to problem-solve in small groups and individually. Activities changed about every 20 minutes. Each session contained activities in mathematics, language arts, and creative problem solving, and, in the third grade session, journal writing activities. The following sample activities provide insight into the nature and extent of sample LEAP sessions.

Grade Two - Session Three

I. General Introductory Activities

II. *Content Area:* Science and Mathematics

Objective: To develop the ability to generate relations between figural items, relations which must be arrived at uniquely and organized constructively.

Activity: "Marble Roll" - generating mathematical data to be recorded in a consistent manner.

III. *Content Area:* Creative Problem Solving and Mathematics

Objective: To develop the ability to deduce meaningful information implicit in given information.

Activity: "Magic squares" - Using deductive reasoning to determine the method and mathematical operations used in the "number trick."

IV. *Content Area:* Language Arts

Objective: To develop the ability to judge which objects or ideas could best be transformed or redefined to meet new requirements.

Activity: Creative Application - Sponge Stories

V. *Content Area:* Language Arts

Activity: "Reflective Writing" - Journal Entries

VI. Structured Assessment Activity (Human Figure Drawings)

One of the interesting features of this program is the collaborative involvement of a school system and a university in its conceptualization, planning, and implementation. Hampton University provides the site for the program, a well-equipped classroom in its laboratory school, with an observation room adjacent for visitors to view the program in action. The university also makes available a graduate assistant. Faculty members are encouraged to use the program as a demonstration or clinical observation site. The school district administers the program and employs the teachers and psychologists who work with LEAP students. The district also pays for the bus transportation to Hampton University.

Benefits of the collaborative effort are perceived to be mutually reinforcing. The university provides a consultant to the project, who becomes an important resource link to the school district by sharing up-to-date research on teaching and learning, assisting in teacher placements, serving on committees, and generally establishing positive interpersonal relationships and enhancing attitudes about university involvement. The program has proved to be a good public relations effort for both parties, with prevalent media coverage over the years of operation. And having young students on campus at Hampton presents aspiration models for African-American students and multicultural appreciation for White students.

An after school enrichment program for disadvantaged students in Israel demonstrated significant improvements in intelligence on an adapted Peabody test after 2 years of 36 two-hour interventions of creative thinking in creative forms, scientific thinking through observations of environmental phenomena, and social thinking through working on real world social issues (Landau, Weissler, & Golod, 2001).

Another intervention that may help support an at-risk gifted student emotionally, by allowing for expression of feelings, concerns, and frustrations, is journal writing (Fielder, 1999). When using journal writing, gifted youth are encouraged to reflect on their feelings and interpretations of different perceptions of their environment and their interactions to different events in their environments. Individual counseling (Stormont, Stebbins, & Holliday, 2001) may be an effective intervention with intellectually advanced students. Part of the counseling emphasis should be placed on making certain that bright individuals understand the nature of their exceptionality. Further, counseling services should help students recognize their own abilities, interests, and limitations, develop adequate social relationships, cope with stress and anxiety, and strive to be challenged. Counselors and school psychologists should also help parents nurture the talents of their children by supporting their children's competence and autonomy (Jacobs & Eccles, 2000).

Curriculum Approaches

Because most of the emphasis in programs for at-risk gifted students has been on identification, in an attempt to address equity issues and include a more diverse group of learners, curriculum efforts have been limited. Much of what we know about curriculum approaches for disadvantaged gifted learners is derived either from educational paradigms used with minority children in general or from mainstream gifted strategies. Current work, however, is attempting to forge new connections to effect more powerful curriculum interventions for these learners. Within these efforts, several perspectives are emerging for consideration by curriculum developers.

Anderson (1988) and Ford (1996) viewed current curriculum efforts for minority groups as reflecting Anglo-European concepts of cognitive functioning, learning, and achievement and failing to identify the cognitive assets and learning preferences of individual cultural groups. Both found that the narrow White male perspective of most American educational settings does not affirm the cognitive/learning styles and devalues the cultures of ethnic populations, and that the greater the acculturation gap between a cultural group and the school, the greater is the likelihood that the group will not succeed. Because different cultures produce different learning styles, modes of perception, and cognitive behaviors, these researchers articulated need for altering the belief systems of educators to understand and respond to non-Western perceptions.

A more Afro-centric view is taken in the Portland Public Schools, Oregon curriculum project and resultant materials. Starting with a set of baseline essays written by African-American educators (Hilliard, 1988), the project has spawned curriculum

units for use in classroom settings (Leonard & Barader, 1988). Unlike other materials that take a multicultural perspective, these curricula are grounded in only one perspective—that of Africa as the center of civilization. This material may be useful in tandem with other materials that present other cultural perspectives if it is adapted for use with gifted learners.

Another approach to enhancing the education of minority students has been focus on better interactions between parents and school staff. Comer (1988) cited 5-year gains for minority achievement in a project conducted by Yale's Child Study Center, which stressed psychosocial development in students through increasing trust and cooperation within school staff and between staff and parents. This goal was accomplished successfully by involving parents in school governance and social events and creating teams of specialists who worked cooperatively to solve problems of individual students.

Another project, through Northwestern University, focused directly on gifted disadvantaged students in the city of Chicago (Olszewski-Kubilius, Grant, & Seibert, 1994; Olszewski-Kubilius & Scott, 1992). It emphasized family empowerment by providing seminars for junior high students and their parents regarding college choices, how to obtain scholarships, and academic planning. The second and third years of the program were directed toward student mentorships and internships, resulting in greater gains in college success and adjustment.

A College of William & Mary program and curriculum, entitled *Libraries Link Learning* (Boyce, Bailey, & VanTassel-Baska, 1990), was designed to serve at-risk gifted primary students in the language arts. Multicultural literature was a central aspect of the program. Each session featured a different book whose characters represented the diverse cultural backgrounds of African Americans, Hispanic Americans, Native Americans, and Asian Americans. Appendix C contains the overview of eight sessions in the program. The literature selected for the program reflects key criteria for selecting books for the intellectually gifted (Baskin & Harris, 1980), affective criteria (Halsted, 2002), and criteria for appropriate multicultural literature (Hernandez, 1989). Classroom activities were structured to address discussions utilizing higher-level thinking skills and the writing process. Extension activities were developed as a link to the family as well as a reinforcement for each lesson.

The central issue surrounding interventions for these learners is the nature of the tailoring process to be used in developing curricula and how the curricula fit with existing curricula for the gifted. To effect the type of tailoring needed, we need to find ways of blending various cultural perspectives that have personalized approaches with active learning in various modalities. Moreover, we must recognize that individual school districts, based on their own contextual issues, will necessarily carry out such curriculum plans in very different ways.

The Challenge for the Future

Where is curriculum and instruction for gifted and talented students headed over the next several years? Clearly, the field of gifted education is changing. Our conceptions of intelligence, and therefore of giftedness, have changed. Our conceptions of the delivery context for serving the gifted have changed. Our population focus has changed. This shift presents a dilemma, but it also challenges us to grow and develop as a field. Perhaps the result will be a field that is responsive to the individual needs of children rather than to preordained labels; to the social context of schools and the networks that hold them together rather than the categorical approach to gifted education as a separate enterprise; and to change in general, which requires us to compromise hard positions and join forces with all educators who care about students with special needs.

If gifted education is to be meaningful for the students it wants to serve, curriculum planners for the gifted should be cognizant of the importance of maintaining a balanced perspective toward key issues. The theme for approaching and dealing with these issues revolves around *balance*—a balance that must be effected through alliances with general and special education models without diffusing efforts to maintain a distinguishable set of curriculum principles appropriate *only* for gifted learners.

One of the dangers of reaching out to the more entrenched curriculum models of general education or the specialized administrative models of special education is a loss of identity in what gifted education itself represents. If current research efforts show that the degree of exceptionality is not sufficiently great to warrant a special administrative structure and special settings for gifted learners, our claims as a field to separate program considerations becomes weakened. If, at the same time, exemplary approaches to curriculum in general education are demonstrated to be both necessary and sufficient for gifted learners, our claims to a qualitatively different set of educational experiences for gifted and talented students are weakened. Although we as a field may have made too much of our distinctiveness and specialness, by the same token we must guard against too quickly abandoning the very principles on which the field has been grounded for the last 80 years—the basic principles of the gifted student's unique needs that call for acceleration, grouping, and enrichment in school settings.

Balance is also important in considering the needs of learners who are gifted in all cognitive areas, in comparison to those gifted only in one. How do we provide appropriate curricular experiences for specialized talents as well as provide comprehensive services to more broad-based ones? This issue is particularly worthy of our reflection at the level of developing a curriculum scope and sequence. Should the outcome expectations for secondary school for the science-prone, for example, differ from the expectations for the intellectually gifted student whose interests and aptitudes are broader? If they should, how might these differential expectations be articulated K-12? Or should specialized talent development even be a function of the public school arena?

Certainly work on talent development would support the contention that it has not been traditionally a part of what public schools have taken on as their responsibility. Perhaps it is in the specialized areas of talent—art, music, mathematics, chess—where the school's major role may be that of broker and facilitator of talent development for students who show early promise. It is for these learners that tutorials, mentorships, and internships in the larger community might be reserved, because their aptitudes and interests are more finely tuned to the need for individualized adult expert instruction.

Balance is also a theme in the domains of study to be valued in a comprehensive curriculum for gifted learners. Affective, aesthetic, and social domains of study need as much attention as the cognitive in the gifted learner's overall development (VanTassel-Baska, 1998). This balanced perspective on curriculum development is needed, lest we limit our recognition of gifted learners' integrated needs and narrow the educational options available to them. Including the arts, for example, provides a vehicle for development of aesthetic appreciation and an expressive outlet that enhances the creative impulse. Scientists foreshadow discoveries in metaphors and visual symbols. Mathematicians strive for elegance in form. Philosophers value the symmetry of an argument. In most professional fields at high levels of creative work, the aesthetic, artistic aspects of the work come strongly into play. To ensure that curriculum for gifted learners is heavily infused with these emphases throughout their schooling seems vital.

Honoring the affective development of the gifted is integral to a comprehensive, balanced curriculum view. These students' need to understand their own exceptionality, their intensity and sensitivity of feelings, their need for coping strategies to help them deal with their own perfectionism and vulnerability all dictate the necessity of a strong affective orientation to their curriculum. These students require teachers who are sensitive to the nature of gifted students, and counseling services that can respond to their psychosocial, academic planning, and career planning needs.

Another facet of a balanced curriculum for the gifted is the area of social development, undertaken with the long view toward adult leadership. Though much of the work in leadership curriculum for the gifted has focused on political leadership, we should expand our thinking to embrace a concept of leadership that recognizes the other forms of leadership that gifted individuals in a society provide, including intellectual leadership in various areas and, for many gifted women in particular, social service leadership (Simonton, 1997). The skills of understanding group dynamics, the organization of complex tasks, and how to motivate others, however, are fundamental to all forms of leadership and must underlie a curriculum for the gifted.

We also need to view our purposes in constructing specialized curricula for gifted learners. We often have argued that differentiating curricula for the gifted is important to meet individual needs, yet we view the potential contribution of the gifted to society as equally important. The metaphor of the gifted as a national resource has been exploited more than once in our history as a field. In the policy arena, at least, we should keep these purposes in a healthy tension that allows for both views to be made explicit. For at a fundamental level, gifted and talented students develop as individuals in a reciprocal

relationship with their society. Thus, their creative work carries meaning beyond themselves whether it is fully intended to or not. By the same token, a society is enriched by having individuals actively engaging in self-chosen creative endeavors.

The translation of this paradox of individual and societal needs at the classroom level can be seen in the cooperative learning concept. To what extent does use of the gifted learner as a tutor/teacher/model to others in group settings become exploitation and costly to his or her own development? To what extent does prolonged independent or homogeneous group work carried out in isolation contribute to rejection by gifted and talented students of their natural connection to other learners in the classroom? To ensure full development of the gifted learner in a social context, a healthy balance must be struck between independent and homogeneously grouped pursuits and heterogeneous group opportunities. Can we tolerate individual excellence within a social framework that honors the integrity of everyone and is hospitable to all learners? This, it seems, is the fundamental question in school classrooms today.

As curriculum planners reflect on these somewhat traditional issues, they must not reject their importance in favor of the more "trendy" questions that may be asked. If curriculum planning is to have merit, the need for a balanced perspective in the areas of general and specialized talent development, equal valuing of cognitive, affective, aesthetic, and social development of gifted and talented students, and a concern for both individual and social contributions must be satisfied. For groups of typical gifted learners, as well as gifted learners with individual needs such as those from special populations, attention to these issues at the planning stage will be most beneficial. School districts must remember that their curriculum for the gifted, its goals and purposes, as well as its delivery systems, speaks loudly to how talent and its development are honored and nurtured in a community.

Curriculum implementation in classrooms will need to use more diagnostic-prescriptive approaches. Even though many in the field of gifted education have advocated greater use of pre-assessment and compacting (Reis & Purcell, 1993; Reis & Renzulli, 1998), the current emphasis on low income minority students should provide sufficient impetus to make it a more standard practice. Without careful diagnostic testing, the chances of intervening successfully with children who have uneven profiles is significantly reduced. Moreover, as heterogeneous classrooms become the norm, gifted and talented students cannot be served adequately without some adaptation of a continuous progress/mastery learning model. This practice will likely gain favor in opening up a new role for specialists in gifted education as diagnosers of individual learning needs and developers of appropriate learning plans.

Can we successfully promote the individualization required to serve the diverse populations of gifted learners currently being identified? Can we mobilize other professional groups and the educators in them to become sufficiently interested in gifted learners to engage with us in collaborative problem solving? Can we sufficiently tailor curriculum experiences in all areas to address the needs of the highly gifted, as well as the twice exceptional? Can schools become sufficiently flexible in curriculum demands

and organizational models to accommodate the individual differences of their charges? The next 10 years hold the answers to these overriding questions. The needs of all gifted learners have waited long enough to hear an affirmative response.

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Appendix A
Interventions With Low Income and Minority Students Affecting Achievement and Motivation

Interventions With Low Income and Minority Students Affecting Achievement and Motivation

- Parent Involvement

  (Comer, Haynes, Joyner, & Ben-Avie, 1996; Fields, 1997; Howells, 1992; Karnes & Johnson, 1987; McIntosh, 1995; Levin & Hopfenberg, 1991; Rito & Moller, 1989; Robinson, Weinberg, Redden, Ramey, & Ramey, 1998; Ross & Smith, 1994; Smith, LeRose, & Clasen, 1991; Smith-Ramirez, 1995; Tomlinson, Callahan, & Lelli, 1997)

- Effects of Individuals on Learning (i.e., parents, peers, and teachers)

  (Clark, 1983; Ford, 1993; Ford, Wright, Grantham, & Harris, 1998; Gibson & Dembo, 1984; Johnson, 1994; Patchen, 1982; Prom-Jackson, Johnson, & Wallace, 1987; Tucker, Harris, Brady, & Herman, 1996; VanTassel-Baska, 1989a, 1989b; VanTassel-Baska, Olszewski-Kubilius, Kulieke, 1994)

- Use of Challenging Content

  (Olszewski-Kubilius, Grant, & Seibert, 1994; Smith, LeRose, & Clasen, 1991; Fields, 1997; VanTassel-Baska, Zuo, Avery, & Little, 2002)

- Use of Higher Order Processes (e.g., critical thinking and problem solving)

  (Fields, 1997; Ford & Harris, 1993; Howells, 1992; Karnes & Johnson, 1987; McIntosh, 1995; Rito & Moller, 1989; Robinson, Weinberg, Redden, Ramey, & Ramey, 1998; Tomlinson, Callahan, & Lelli, 1997; VanTassel-Baska, Zuo, Avery, & Little, 2002)

Struck (2002)

Appendix B
Effective Educational Interventions for Minority and Low Socioeconomic Learners

Effective Educational Interventions for Minority and Low Socioeconomic Learners
Programs for All Disadvantaged Learners

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness
Bringing Out Head Start Talents (BOHST) (Karnes & Johnson, 1987)	• Champaign and Vermillion Counties, Illinois • 212—comparison group • 234—intervention group • Preschool	• Heterogeneous grouped with the top 20% identified as potentially gifted • Used curriculum based on Guilford's Structure of Intellect (SOI) • Stressed convergent, divergent, and evaluative thinking • Parent education on activities that were parallel to activities being used in the classroom	• Non-identified gifted and talented students had significantly higher gains than the comparison group on the Kaufmann Assessment Battery for Children.

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness
Head Start (High Scope Perry Preschool Project, Schweinhart, 1993)	• Perry Elementary School, Ypsilanti, Michigan • Longitudinal Study • 64 treatment group • 64 comparison group • Ages 3 and 4 (IQs between 70 and 85)—followed through 27 years of age	• Two year classroom program • Daily 2-hour classroom-based session on weekday mornings • 1-hour home visit to each mother and child on weekday afternoons • Active learning based on Piaget • Emphasis on open-ended questions	• Statistically significant higher intellectual performance of the program group than the non-program group on the Stanford-Binet at the end of the first preschool year (95.5 vs. 83.3). At the end of the second year, at age 5, the results were 94.9 vs. 83.5, and at age 7, 2 years after the preschool program, the results were 91.7 vs. 87.1. In each case, the effect size exceeded 0.70. • The program group also significantly outperformed the non-program group on nonverbal intellectual ability on the Leiter, in vocabulary on the Peabody Picture Vocabulary Test, and on the Illinois Test of Psycolinguistic Abilities. Effect sizes on each test exceeded 0.70.

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness

The Carolina Abecedarian Project (Campbell & Ramey, 1991, 1994)	• North Carolina
	• Longitudinal experimental study
	• Early infancy to age 12
	• Treatment Group—47 (E)
	  • Experimental-Experimental group EE—25, had 5 years pre-school and 3 years school-age intervention
	  • Experimental-Control EC—22, had 5 years of preschool intervention only
	• Comparison Group—43 (C)
	  • Control-Experimental CE—21, had 3 years of school-age intervention only
	  • Control-Control CC—22, had no intervention
		• Preschool Intervention—E
		  • Mean age at entry to day-care center—4.4 months
		  • Center operated 8 hours a day, 5 days a week, for 50 weeks per year.
		  • Curriculum material used to enhance children's cognitive, language, perceptual-motor, and social development.
		• Preschool Intervention—C
		  • 15 months—provided with iron-fortified formula
		  • Free disposable diapers
		• School-age Treatment—EE and CE
		  • Biweekly home visits by Home School Resource Teacher—utilized individualized reading and math activities suggested by the classroom teacher
			• From 6 to 96 months of age Group E significantly outscored Group C on the Stanford-Binet Intelligence Scale with a 16 point difference at 36 months, and at 96 months on the Wechsler Intelligence Scale for Children—Revised (WISC-R), with a 4-point difference.
			• The school-age phase of intervention had no detectable effects upon IQ test scores. After 3 years in public school, reading and math scores from the Woodcock-Johnson Pyschoeducational Battery showed significant linear trends with mean scores increasing as a function of the number of years of intervention.
			• At approximately age 12, there was a significant difference on the mean Full Scale and Verbal IQ scores on the WISC-R, with preschool E outperforming preschool C. There were no group differences in Performance IQ.
			• At age 12, on the Woodcock-Johnson Pyschoeducational Battery, reading, math, written language, and knowledge had a significant linear trend that showed an increase in mean scores across the groups as the years of intervention increased.

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness
Project First Step (McIntosh, 1995; Perez, 1993)	• San Diego City Schools • Ten inner city schools—numbers varied • Preschool age	• Three year project • Services potentially gifted students at 10 inner city schools • Implementation of Taba's instructional strategies of brainstorming, concept development, and conflict resolution • Use of Parnes' creative problem-solving strategies • Series of 3 week workshops to help parents understand giftedness, early childhood development, multiple intelligences, and at-home enrichment	• Using the Raven's Matrices for identification, in the past 10 years, participation in the San Diego gifted program went from 20% non-White to 48% non-White.

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness
Reading Recovery (Sensenbaugh, 1995)	• National study • Numbers varied • First graders	• Curriculum-based reform • One-to-one tutoring 30 minutes a day up to 20 weeks • Reading skills are taught in the context of extended reading and writing	• Data collected for 16 years (1984-2001) on every student serviced in the United States. Achievement of goals is measured using the Observation Survey of Early Literacy Achievement. Since 1984, 81% of students who completed 12 to 20-week lessons, and 59% of all students who had any lessons, can read and write within the average range of their class. Further research on the long-term effectiveness of the program is needed according to staff.

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness
Success for All (SFA) (Hurley, Chamberlain, Slavin, & Madden, 2001)	• 111 Texas schools • Grades 3-5 • Treatment group—learners in SFA schools • Comparison—learners in non-SFA schools	• Students grouped according to reading ability and taught by certified teachers hired as tutors. • Regrouping heterogeneous, age-grouped classes into homogeneous, cross-grade ability groups during the language arts • Reduced class sizes • Eight week reading assessments in which students are tested to determine progress and needs for tutoring or group changes • Systematic reading program • Family Support Team • A program facilitator	• On the TAAS reading scores, African Americans in 66 SFA schools gained 5.62 percentage points more than those in control group schools and the difference was statistically significant. On the pretest, African Americans trailed White students by 24.6 percentage points, while on the 1998 post-test, they were only 6.5 percentage points behind White students. The effect size was +0.37. Combined across 95 schools that had adequate numbers of Hispanics, the gains for the Hispanics in SFA schools were significantly larger than those for Hispanics in other schools. The effect size was +0.28.

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness

Project Special Elementary Education for the Disadvantaged (SEED) (Webster & Chadbourn, 1992)	• Detroit Public Schools
	  • 4, 5, and 6 graders over a 5 year period
	  • Longitudinal group—32-87
	  • Short-term group—245-295
		• Heterogeneous grouping
		• A supplement to the regular curriculum, 45 minutes of direct instruction in algebra and higher-level math courses from highly trained math and science specialists from industry
		• Teacher training in instructional pedagogy and advanced mathematics curriculum designs
		• Professional development
		• Family involvement activities
		• Specially developed curriculum for all direct instruction, teacher training, staff development, and family involvement.
			• Gains in mathematics achievement on the Iowa Tests of Basic Skills were found after one semester.
			• There was a retention of math skills as long as 4 years after SEED instruction. Project SEED students were found to be more likely to enroll in advanced mathematics in secondary school.

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness

Equity 2000 (Fields, 1997)	• A National Mathematics Initiative
	  • Fort Worth, Texas
	  • Milwaukee, Wisconsin
	  • Nashville, Tennessee
	  • Prince George's County, Maryland
	  • Providence, Rhode Island
	  • San Jose, California
	• 9th and 10th graders
	• Varied group size
		• Heterogeneous grouping
		• Less teacher lecture and more math concept discovery
		• Increased discussion
		• More interdisciplinary focus
		• Professional development
		• Parent outreach
			• Effectiveness for Prince George's County Maryland: In 1994-95, 9th grade enrollment in Algebra 1 was 90%, up from 53% in 1990. Enrollment in geometry was up from 44% in 1990 to 77% in 1994-95. There was no significant difference; however, between the 1990 and 1994-95 passing rate—80% for Algebra I and 87% for Geometry.

Effective Educational Interventions for Minority and Low Socioeconomic Learners
Programs for Disadvantaged Gifted

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness
Project Support to Affirm Rising Talent (START) (Callahan, Tomlinson, Moon, Tomchin, & Plucker, 1995)	• Charlotte-Mecklenburg Public Schools • Kindergarten and grade 1 • Group 1—mentored students • Group 2—non-mentored students • Group 3—Control group • Cohort I—1,813 students • Cohort II—1,077 students	• Three-year program • Implemented within the regular classroom • Instruction-based on Gardner's Multiple Intelligences Theory • Multicultural curriculum • Manipulative-bases • Language immersion • Mentorships • Weekly after school clubs and tutoring sessions • Cultural enrichment activities	• For all 3 groups, the mean scores on the ITBS increased across the 2 testing periods. No matter what group, there was a significant difference in the ITBS subtest scores across the 2 testing periods, implying that no particular intervention had an effect on student achievement. In Grade 2, the largest mean increases on the ITBS occurred in the 2 treatment groups, with the control group experiencing the least mean increase for all 4 subtests.

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness
Potentially Gifted Minority Student Project (PGP) (Howells, 1992)	• West Palm Beach, Florida • Grade 4 • 144 students year • No comparison group	• Ability-grouped self-contained 4th grade class of 15 to 16 students • Direct instruction in high-order thinking skills that emphasized analysis • Provided application and reinforcement of thinking skills in content areas • Used Building Thinking Skills (Black, 1986), a Piagetian method of introducing each thinking skill • Metacognitive approach—students required to articulate reasoning behind responses and rationale for not choosing other answers	• After 1 year in the program, students showed average gains of 16-30 points on the WISC-R. These were significantly greater gains than those that normally are obtained. On the Peabody Picture Vocabulary Test (Revised), after 7 months of instruction in 1987, students showed an average gain of 13.1 points and in 1986, an average gain of 12.6 points. As a result of the PGP program, enrollment in the gifted program increased 5% in 1980.

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness
Teaching Enrichment Activities for Minorities (TEAM) (Rito & Moller, 1989)	• Dade City Public Schools, Florida • 2nd grade • Approximately 120 students	• Ability-grouped self-contained classes • Direct instruction in higher order thinking skills that emphasize analysis • Used Building Thinking Skills (Black, 1986) • Metacognitive approach • Parent training in the application of skills	• Students achieved statistically significant gains beyond the .0001 level in reading comprehension, math computation, and math applications. When broken out by ethnicity, Whites, Blacks, and Hispanics had significant gains beyond those expected during a typical year.
School-Based Centers for Low Income Minority Students (Struck, 2002)	• Southeastern urban school district • Longitudinal/retrospective study • Treatment Group—38 • Matched comparison Group—31 • 11th and 12th graders	• Ability-grouped, self-contained classrooms over at least 3 years at the elementary level • Use of multicultural literature • Use of advanced reading materials • Use of accelerated math curriculum • Use of projects • Accelerated curriculum with in-depth exploration of content • Participation in contests and competitions outside of school	• The treatment group had significantly higher scores on the Iowa Tests of Basic Skills, Stanford 9, PSAT, and high school GPA. Across all educational levels, the treatment group had a statistically significant larger number of awards. Five times as many learners in the treatment group than the comparison group completed geometry before grade 9.

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness
National Study of Science (VanTassel-Baska, Bass, Ries, Poland, & Avery, 1998)	• Selected school districts across 7 states • Grades 2-7 • Treatment group of 45 classrooms • Comparison group of 17 classrooms • Total N=1,471 • Grouping patterns varied from self-contained to cluster grouping	• Interdisciplinary Curriculum Model (ICM) employed • Use of problem-based learning • Use of experimental design • Use of concept teaching	• On the Diet Cola Test of Science Process Skills, an analysis of covariance posttest means with the pretest as a covariate showed significant differences between experimental and comparison groups, with a high effect size of 1.30.

Language Arts Study (VanTassel-Baska, Zuo, Avery, & Little, 2002)	• Seventeen public school districts and 1 private school from 10 states
	• Grades 2-8
	• Treatment group of low SES students
	  • Literature N=57
	  • Writing N=53
	• Compared with high SES students
	  • Literature N=49
	  • Writing N=52
		• Ability grouping, self-contained
		• ICM employing advanced literature to focus on literary analysis and interpretation, and persuasive writing.
		• Use of pre/post assessments
		• Teachers trained in use of curriculum materials
			• There were no significant differences between the gain scores of the low SES and high SES learners; however, students achieved significant and important gains in literary analysis and interpretation and persuasive writing. In literature, score differentials for low SES students were 1.32 while for high SES students, the gain differential was 1.04. In persuasive writing, gain score differentials for low SES students were 5.36, while they were 5.00 for high SES students.

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness
Project Phoenix (Little, Feng, VanTassel-Baska, Rogers, & Avery, 2002)	• "Enterprise Zone" school district in the southeast • Treatment group N=949 • Identified gifted N=35 • Comparison group N=251 • 2nd, 4th, and 7th graders	• Regular classroom assignment • ICM social studies curriculum employed for 15+ hours of instruction • On-going teacher training model employed	• Treatment students in 6 out of 7 schools performed significantly better from pre- to post-tests in conceptual reasoning; the effect sizes ranged from .38 to .87, indicating a medium to fairly large increase of conceptual reasoning skills. No statistically significant differences were found between the groups on the conceptual thinking post-assessment. Treatment group students in five schools registered significant performance gains from pre- to post-tests, with effect sizes ranging from medium to large. For the treatment group, the impact of the content acquisition was educationally important (eta squared=.11).

Programs for Disadvantaged Learners	Participants	Key Features	Research on Effectiveness

Lighthouse Project (LeRose, 1986; Smith, LeRose, & Clasen, 1991)	• Racine, Wisconsin
	• Longitudinal study
	• 91 identified gifted learners
	  • 24 placed in the Milwaukee Program for the Academically Talented (PAT) for 12 years
	  • 67 placed in regular education
	• Longitudinal study
		• Cluster-grouped
		• Received full-time gifted instruction from a teacher trained in gifted education
			• No one from PAT dropped out of school (54% were African Americans), while 30 from regular education dropped out (60% of the dropouts were African Americans)
			• 63% of the PAT learners enrolled in college, while only 21% of gifted regular education students enrolled.

Appendix C
Libraries Link Learning (LLL) Sample Sessions

Libraries Link Learning (LLL) Sample Sessions

Literature	Writing	Bookmaking
Students will respond to *I'm in Charge of Celebrations*	Students will brainstorm topic lists of special things that have happened to them; things they know a lot about; things they care a lot about.	Parent Training: Parents will be invited to hear an overview of the LLL program.
Students will respond to *Bringing the Rain to Kapiti Plain* Students will respond to *Owl Moon*	Students will share their written work and respond to other authors. Students will conference with facilitators, responding to questions about their writing.	About the Author: Students will write their own autobiographical paragraph. Publishing Process: Students will view a video about book publishing and examine bookmaking materials.
Students will respond to *Grandpa's Face*	During individual conference sessions, students will revise their stories to add more details, clarify the story, or create better story structure.	Book Covers: Students will examine different book cover types and make individual book covers.
Students will respond to *Mufaro's Beautiful Daughter*	Students will choose a work to publish.	Endpapers: Students will tape book covers together and glue endpapers onto inside bookcovers.
Students will respond to *Ming Lo Moves the Mountain*	During individual conferences, students will edit their stories.	Dedication Pages: Students will write their own book dedication.
Students will respond to *Anno's Journey*	Students will illustrate their stories.	Signatures/Illustrations: Students will sew their book signatures, illustrate them, and glue them into their book covers.
Student author readings of published books		Public Presentation: Students will present their bound books to their parents.

Source: Excerpted from *LLL Resource Guide,* Center for Gifted Education, The College of William & Mary.

Session #2

I. Literature Objectives

- The children will demonstrate critical thinking about literature.
- The children will show evidence of originality in written or oral responses.

Literature Activities

1. Read *Bringing the Rain to Kapiti Plain* by Verna Aardema. After the story, spend a few minutes asking guided questions such as:
   What do you like about this book?
   What caused the grass to turn brown?
   What are some of the other things that happened as a result of no rain?
   What important qualities did Ki-pat have?
   Pretend you are Ki-pat. What makes your job hard?
   What if the cows had died? How might the story have been different?
   In your opinion, what is the best part of the story? Why?
2. Divide the group in half and have a different activity for each group:
   (a) Have felt cut-outs ready, which represent different parts of the story. Children can retell the story using a felt board to show the story sequence.
   (b) Have Cray-pas or waterpaints available. Have children look at the story illustrations and ask, "How has the illustrator used color to help tell the story? How has the illustrator used shape to help tell the story?"

   Have the children choose a scene from the story and change the color or shape. How might that change the story?

II. Writing Objectives

- The children will choose an idea from their topic lists and compose a story about the idea.
- The children will respond to individual conference questions about their writing.
- The children will share their stories with each other and respond to the shared stories.

Writing Activities

1. Have children pick up their writing folders and continue working on their stories from last week. If they have not yet started composing a story, they get a blank draft book, choose one of their topic ideas, and begin to write about it.
2. Facilitators circulate and individually conference with children, asking:
   What are you writing about today?
   Can you read me what you wrote?
   Can you tell me more about _____?
   I don't understand why you wrote _____. Can you give me more information to help me understand?

What is going to happen next?

3. After 15-20 minutes of free-writing and conferencing time, gather children for a sharing circle.
4. Ask for a volunteer author to read his/her story. Have the rest of the children listen for what they liked about the story and what they would like to know more about.
5. After the author shares his/her story, let the author ask the others what they liked about the story and then what they would like to know more about. (Two/three authors may be able to share per session.)

III. Bookmaking Objectives

- The students will learn that books often have information about the author and will write their own autobiographical paragraphs for their books.

Bookmaking Activities

1. Read some illustrative "About the Author" pieces from a selection of children's books.
2. Have the children write a paragraph about themselves, which can be saved in their writing folder to be used when their book is published.
3. Take a picture of each child, to be used with the "About the Author" paragraphs.

Materials/Resources

Bringing the Rain to Kapiti Plain by Verna Aardema (New York: Dial, 1981).

Felt board and felt pieces of story (can be made from cutting illustrations from paperback or discarded book).

Cray-pas or waterpaints and drawing paper.

Individual writing folders with topic idea lists.

Blank writing booklets.

Pencils/crayons.

Poster with sharing questions:

What did you like about my story?

What in my story would you like to know more about? Camera/film.

Sample "About the Author" sections from a selection of books.

Products

Interpretive story illustration.

Draft compositions.

An "About the Author" piece for their own book.

Take-Home Extension Activities

Today we read *Bringing the Rain to Kapiti Plain,* an African folktale retold by Verna Aardema. You may want to reread *Bringing the Rain to Kapiti Plain* and compare it to *This Is The House That Jack Built* by using this chart:

ALIKE **DIFFERENT**

You also may enjoy reading other African folktales retold by Verna Aardema:

Tales from the Story Hat: African Folktales (New York: Coward-McCann, 1960).
Who's in Rabbit's House? (New York: Dial, 1977).
Why Mosquitoes Buzz in People's Ears (New York: Dial, 1975).

Research Monograph

The National Research Center on the Gifted and Talented
University of Connecticut
2131 Hillside Road Unit 3007
Storrs, CT 06269-3007
www.gifted.uconn.edu

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